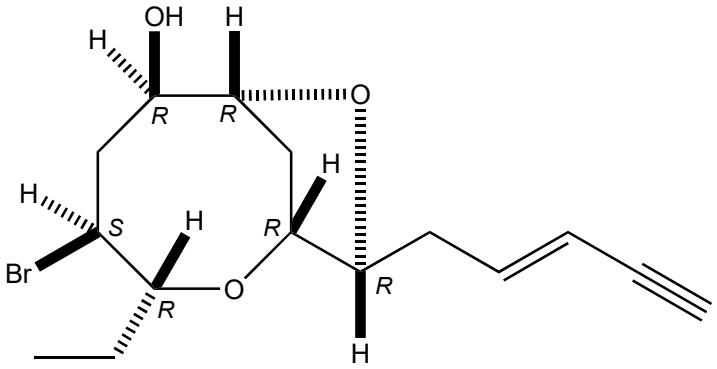
4416 (C15 acetogenin)

Name: Laurefucin {4-Bromo-3-ethyl-9-pent-2-en-4-ynyl-2,8-dioxa-bicyclo[5.2.1]decan-6-ol}
Origin: *Laurencia nipponica* (Moheji, near Hakodate, Hokkaido, Japan)[1,2];
Laurencia subopposita (La Jolla, California, USA)[3];
Laurencia sp. cf. *L. gracilis* (Matheson Bay, Leigh, New Zealand)[4];
Formula: $C_{15}H_{21}BrO_3$
Mol. Wt.: 329.23
Opt. Rot.: $[\alpha]_D$ -80 ($CHCl_3$)[1]; $[\alpha]_D^{25}$ -71.0 ($CHCl_3$)[4]
Mp.: 107-108



References and Notes

(1) Fukuzawa, A., Kurosawa, E., and Irie, T. 1972. Tetrahedron Lett., **13**, 3-6. Laurefucin and acetyllaurefucin, new bromo compounds from *Laurencia nipponica* Yamada. (**UV, ^{1}H-NMR, ^{13}C-NMR**)

(2) **Structure revision**; Furusaki, A., Kurosawa, E., Fukuzawa, A., and Irie, T. 1973. Tetrahedron Lett., **14**, 4579-4582. The revised structure and absolute configuration of laurefucin from *Laurencia nipponica* Yamada. (**X-ray crystallographic analysis**)

(3) Wratten, S. J. and Faulkner, D. J. 1977. J. Org. Chem., **42**, 3343-3349. Metabolites of the red alga *Laurencia subopposita*. (**3*E*/3*Z* (3:1) mixture**) (together with isoprelaurefucin, acetyllaurefucin, laurefucin, dehydrobromolaurefucin, several sesquiterpenes)

(4) Konig, G. M. and Wright, A. D. 1994. J. Nat. Prod., **57**, 477-485. New C_{15} acetogenins and sesquiterpenes from the red alga *Laurencia* sp. cf. *L. gracilis*. (**^{1}H-NMR, ^{13}C-NMR**) (together with several acetogenins and sesquiterpenes)

(5) **Total synthesis**; (a) Kim, B., Lee, M., Kim, M. J., Lee, H., Kim, S., Kim, D., Koh, M., Park, S. B., and Shin, K. J. 2008. J. Am. Chem. Soc., **130**, 16807-16811. Biomimetic asymmetric total synthesis of (-)-laurefucin via an organoselenium-mediated intramolecular hydroxyetherification.; (b) Snyder, S. A., Brucks, A. P., Treitler, D. S., and Moga, I. 2012. J. Am. Chem. Soc., **134**, 17714-17721. Concise synthetic approaches for the *Laurencia* family: Formal total syntheses of (*dl*)-laurefucin and (*dl*)-*E*- and (*dl*)-*Z*-pinnadifidenyne.